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A SHORT

ACCOUNT

Of the SUCCESS of

WARM BATHING

IN

Paralytic Disorders.

By JOHN SUMMERS, M. D.
Of BATH.

The SECOND EDITION, with large Additions.

—Thermæ Naturales adhiberi solent : *Instar Omnium*
vero sunt *Thermæ nostræ Bathonienses* : Quibus, (si
Temperamento Ægrotantis apte congruunt) nullum
præstantius remedium excogitari potest : quod satis in-
dicant plurimum a Membris resolutis curatorum *Grallæ*,
quasi totidem de Morbo hoc devicto *Trophæa* suspensæ.
Willis de Paralyfi.

L O N D O N :

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TO THE
RIGHT HONOURABLE THE
Lord Viscount DUPPLIN,
PRESIDENT,
And to the other GOVERNORS of the
BATH INFIRMARY.

GENTLEMEN,

WHEN your pious and charitable Design of erecting an Hospital at *Bath*, was first offer'd to the Publick, among other very good Reasons, I remember it was said, “ That this Undertaking, “ would contribute to render the “ Nature and Efficacy of the *Bath* “ Waters more certain and extensive; and thereby be a Benefit to “ succeeding Generations.”

The Publick therefore, by whose Generosity, and under your Direction,

rection, the Infirmary is now happily establiſh'd, may expect, nay, have a Right to be inform'd, how far their noble Intentions have been answer'd, and what Good their Benevolence has produc'd.

I think what is ſaid in *this ſhort Account*, in ſome Meaſure answers this Purpoſe, more eſpecially as it determines a Doubt in a very material Point: And the Rich may *thereby* be encourag'd to partake of a Bleſſing they have given to the Poor; and *thus*, as they have open'd the *Fountain*, they will in *a phyſical*, as well as a religious Senſe, have the *Streams* of it, flow upon themſelves. I am,

GENTLEMEN,

Your very humble Servant,

Bath, October
4th, 1751.

J. SUMMERS.

A S H O R T
A C C O U N T
Of the S U C C E S S of
Warm Bathing, &c.

TH E Custom of Bathing in Paralytic Disorders, which Success has introduc'd, having been establish'd for many Years, and the Advantages of it being so generally known and allow'd, I was somewhat surpriz'd and concern'd, to find it discountenanc'd, and declared to be highly injurious, under the Sanction of so great a Name as Dr. *Mead's*. The distinguish'd Character that Gentleman has always justly maintain'd in the learned World, and the many great and eminent Services

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he has done in his own Profession, cannot but incline *All*, to pay a Deference to his superior Reputation, and prejudice every Reader in favour of his Authority: But his known Humanity, and constant Application to improve the Science he presides in, are so universally admir'd, that we are sure, he would with Pleasure receive an Information of any Error, and retract any Opinion he had deliver'd, that might tend to hurt the Publick, or not procure that Good he is so desirous of doing, and his extraordinary Talents have made him so able to promote.

In the Preface to his last Work *, he speaks, as he has always acted, with so much Candour, and Zeal, for Truth,

* Quocirea nec me puduit, quæ quandoque ipse, siue ignorantia, siue negligentia, perperam fecerim, monere, & agnoscere; convenit enim ut ait Celsus simplex veri erroris confessio, præcipueque in eo ministerio, quod utilitatis causa, posteris traditur. Vid. Pref.

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that I am sure of his Pardon, when I venture to state a Matter of Fact, which will shew he was mistaken, in asserting, “ that Warm Bathing is hurtful to *All* “ paralytic People*.

This Sentence alone is sufficient to alarm many, and gain such Influence on the Minds of despairing Cripples, as to deter them from pursuing a Method known to be useful; for many are the Cases that might be produc'd, and many Instances are *Here* daily seen, which would prove the Utility of it:—But as I would not oppose any single Authority from private Practice against so celebrated a Physician, I have chose to rest the whole Force this Expedient should have, upon Arguments that neither Prejudice nor Interest can be suppos'd to produce, or be suspected to convey more Weight than

* *Calidæ vero immersiones omnibus paralyticis nocent. Vid. p. 62.*

the bare Relation supports ; I mean the *Register of the General-Infirmary at Bath* ; There, when Patients are discharged, it is not what Condition the Physician concern'd reports they are in, but what the whole Committee sees and examines, which is recorded : This therefore is a Testimony to be relied on, and such a Proof as none can dispute.

We have a great Variety of paralytic Patients, and upon exactly examining our Books, from the first opening the Hospital to this present Time, I find the Account to be as follows :

Admitted in Nine Years.	}	310	Cur'd	Much better	No better	Incurable	Dead
			57	151	45	42	12
				Remain in the House 3.			

From hence it appears, that more than two Thirds were either cur'd, or receiv'd great Benefit, and that only Twelve died in the Space of nine Years : All these Patients were bath'd twice a Week, and many of them three Times. And what
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is very remarkable is, that of those who were cur'd, or discharged much better, above thirty were more than 40 Years old, fifteen of whom were turn'd of 50, and five were 60 and upwards. Now let Appearances have their Force, Conjecture hesitate, and Reason judge.

Here it is of some Importance to observe, that these poor People lie under many Disadvantages, unfelt by Persons of Fortune: They live in a close confin'd Air, have no Exercise, and are not allow'd a proper Use of the Bath, which as it is now regulated, subjects them to Inconveniences, which greatly obstruct the Good they might otherwise receive.

For want of a *sufficient Fund* too, (notwithstanding the Generosity of many Contributors) we are not yet enabled to admit the Number our Edifice was design'd for; by which means, many miserable

ferable Objects are obliged to wait so long after they are taken ill, that the Distemper becomes so fix'd and obstinate, that it is really surprizing that any Methods should be of Service.

And when I add, that the Generality of our Patients, come as Incurables from other Hospitals, where there are Physicians of the first Character, and consequently where the best Means are used : How strong in Favour of Bathing (with such Obstacles) must be the above Account ?

I do not take upon me to distinguish the several Species of Palsies, or prove how one may be benefited by warm Bathing sooner than another : But as the Hemiplegia is the most obstinate, and the most skilful Practitioners so seldom succeed in it, I have selected what with Certainty I can vouch to be of that Kind :

Among

Among the 310, 43 were Hemiplegia's, the State of whom is as follows :

Cur'd	Much better	Better	No better	Incurable	Improper	Dead
4	13	14	2	4	3	3

In Confirmation of this Success, I must not omit to mention, that among *Guidot's* two Hundred Cases, there are 23 Paralytics, 17 were cur'd, 4 of which were Hemiplegia's, and the other 6 were much better by Bathing*: These are Evidences so strong, that for the Good of Mankind I should hope they were sufficient to convince every Body, notwithstanding the Prejudices of the Faculty, or the Appearance of the Disorder,

* *Guidot* says, in his Preface, “ That Mr. *John Revit*, an aged Man, hath very lately publicly testified his Cure of an Hemiplegia, in a Month's Bathing, by an Inscription round a very fair brass Ring, on the right Hand of the Entrance into the Queen's Bath out of the King's, after this Manner: Thanks to God, I *John Revit*, his Majesty's Brazier, at 56 Years of Age, in this present Month of *July* 1674, in this Place, recover'd a Cure of Health and Limbs, of a Dead Palsy on one Side from Head to Foot.” Vid. *Guidot's* Preface.

Hypo-

Theory but seldom coincides with Practice, and rather misguides and leads us to Error, than assists us in investigating the true Cause, or fixing on the proper Method of curing Diseases. And yet Hypotheses, and reasoning on the Efficacy of Medicines, so far as Facts direct us, will always be useful; as thereby the admirable Structure of our Machine may be better explain'd, and by a judicious Attention, be the better preserv'd.

Without these Guides, whatever the Learned have thought or advanc'd on this Subject must be little to the Purpose, and like an *Ignis fatuus*, will serve only to betray us into Danger, and lead us from Paths we ought to have taken : But the undoubted and manifold Examples which we have in the present Enquiry, will, I hope, keep the restless Spirit of Refinement within Bounds, and teach Reason the Way to Truth.

But yet to show, that warm Bathing is not so absurd and unreasonable as some have imagin'd, notwithstanding the Relaxation which attends this Complaint, I shall present the Public with the Opinions of the most celebrated Moderns, *Pitcairn*, *Boerhaave*, and *Hoffman*, who all anatomically prove, the original Cause of Palsies to proceed from Obstructions in the nervous System, or the interrupted Course of the arterial Blood, which, by means of the Nerves, is subservient to muscular Motion.

The first *, after distinctly treating of the several Species, says, that an Obstruction of the Arteries of the Muscles, or the proper Influx of the nervous Fluids, will produce the several Symptoms; and mentions the common Experiment of, tying the Nerve or Artery, either of which will bring on a Paralysis of those Muscles to which they were detach'd:

* Vid. *Pitcairn de Paralyfi.* pag. 86.

He does not mention, why the arterial Blood is necessary to muscular Motion; and *That* indeed is a Difficulty, no one as yet has clearly explain'd. *Boerhaave* says, that the common Coat of the Nerves, which arises from the Meninges, and is replete with various Kinds of Vessels, will often be inflam'd and obstructed, and so pressing * upon the Nerves, prevent the Motion of their Fluids; or, however, their Action, and thereby be the Cause of the Resolution of the Muscles; and that the Arteries, distributed to the Muscles, will suffer the same Alterations, and produce the same Effects: Nay, he adds, that Astringents will cause a Palsy, and that attenuating, discutient Medicines, are the only means to resolve the impacted Humours.

And lastly, *Hoffman*, in various Places says, that Palsies proceed from the ner-

* *Causa proxima est, semper impeditus fluor, liquidi nervosi in musculum paralyticum, vel liquidi arteriosi in eundem. Vid. Aphorism. p. 261.*

vous Fluid being intercepted; and frequently mentions and recommends warm Bathing *.

But adhering to no Doctrine or Authority whatever, let Bathing have *Experience only*, to lead us to its Use, or shew us the Danger of it: And if we take that for our Guide, what has been already observ'd, will, I should think, be sufficient to remove our Suspicions, and resolve our Doubts.

The Doctor observes, that he has known some, who after Bathing have died apoplectic. And I do not at all doubt it, but very much question, whether Bathing produced that Effect; for many Paralytics die in that manner, especially

* *N. Pifo* on this Subject, after enumerating the several Methods of Cure, says, Si adsint Balneæ calidæ naturales, præsertim nitrosæ, bituminosæ iis utendum, in eisque resoluta membra, agitanda sunt: non ita probantur aluminosæ, quia nimium astringunt.

if the Disorder originally began in the Head; and indeed these Distempers are so nearly allied, as arising from affected Nerves, that they are frequently productive of each other, the Apoplexy bringing on a Palsy, and the Palsy ending in an Apoplexy. If we did not know this to be true, in Persons who never saw *Bath*, the Effects of Bathing might perhaps be more strongly suspected and impeached; and yet what makes much to the present Purpose is, that not *One* of the 12 who died became apoplectic: And this I assert, after the most exact Scrutiny I could make; and upon my own Knowledge I can say, that ever since I have attended the House, which is near three Years, no one was ever seized with a Fit in the Bath, or immediately afterwards, tho' thro' the Inconveniencies I have hinted, the Patients often stay in an Hour, and sometimes longer.

If Bathing therefore but remotely tended to such ill Effects, we must have had frequent Examples in the Infirmary, more particularly as we have great Opportunities of seeing the Consequence of this Method; for many continue on our Books 3, 6, 9, and sometimes 12 months: Which to me appears an additional Proof that no Harm attends even long and repeated Bathing;—I cannot therefore but conclude, that warm Bathing seems, nay, is *now shown* to be the proper Means of restoring Health and Vigour in this enervated Situation, I am afraid to say *relax'd*, for fear the Effect should inadvertently be taken for the Cause. And here it is very material to observe, that we have only the Use of the *Hot-Bath**, when it is probable, that a more moderate

* The moderate Warmth of the Cross Bath, as it does not so immediately affect, perhaps stimulate the Skin and Fibres, nor so suddenly rarefy and attenuate the Fluids, us'd to be in the highest Esteem; but thro' I know not what Caprice, it is not now so frequently us'd as I think it deserves.

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one might sometimes be the best Beginning, and for *some Time* perhaps better succeed ; at least Circumstances often arise, that must make us wish to have such a Change in our Power.

It has been insinuated, that we might have done more good, had we not so indiscriminately bath'd our Patients, which seems rather an Experiment than a prudent Use of Bathing. But when Men once fall into a Prejudice, rather than sink under it; they will lay hold on Straws to support them ; for if it was an Experiment, all must acknowledge it ought to be continued, seeing how well, and how often it has succeeded ; and as Success has given us this Encouragement, we cannot but still persevere in the Use of it. I have therefore only to say on this Head, that I shall be very glad if any one can produce, from the same Number of Patients, the same good Effects, *without Bathing*.

A further Objection has been started, That all those who bathe, do at the same Time drink the Waters, to which all the Good obtain'd may be owing; at least the Virtues of Bathing cannot be so precisely ascertain'd. But when we consider that all those who *drink* the Waters *do not bathe*, Observation may remove this Difficulty; and it has been remark'd, that they who have bath'd, have in general become better, and many of those who did not, either died here, or soon after they left us, of which there are some recent Examples. But what should have great Force as to this Point is, that there are many Instances of People who following the Orders they had in *London*, *only to drink* the Waters, finding themselves no better, or rather worse, have been *prevail'd* upon to use the Bath, with such Success, as they themselves only should declare: For it would look too much like

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Partiality in any of the Profession, to say how far, in *P*reference to *Drinking*, the Excellence of this suspected Method has surpassed all Expectation.

And if we compare the Numbers reliev'd in the Hospital with those in private Practice, I am well assur'd, the great Odds would settle this Question much to the Advantage of Bathing.

From what Cause arises this Dread of Bathing, this extraordinary Hydrophobia, I cannot imagine. The Waters themselves, it seems, will sit tolerably easy, but the Steams of them are more poisonous than those of la Grotta de Cani; and yet, I think, it is beyond a Doubt, that even *They* have Qualities, rather to be admir'd than shun'd, rather to be sought after than avoided.

In what manner warm Bathing produces these good Effects in Palsies, may

be difficult to explain, tho' it is sufficient to shew, that *Experience* confirms the Propriety of it. But yet, as I have quoted some Writers who authorize and approve of the Method, I shall, in support of this Practice, suggest how I conceive the Fluids and Fibres may be so acted upon, by the Means of warm Water, as to bring about a Change in the Animal Oeconomy quite opposite to its present Circumstances.

Palsies appear to be, and really are, a State of Relaxation; but *That*, if the Doctrine of the Nerves is true, is but a Consequence of a previous Obstruction, or what will equally answer my Purpose in this Enquiry, an Inability in those Organs, which are allow'd to be the * Instruments

* The *Modus Agendi*, or how the Nerves perform the important Parts of Sensation and Motion, I have no Business with; all who have wrote on this

struments of Sensation and Motion; when therefore *They* are render'd incapable of performing their Office, Part of which is, to *regulate* and continue the Circulation thro' the Muscles, the Arteries, upon whose Coats the nervous Filaments are distributed and inserted, lose their Force †, and cannot convey on the Blood, as they should, perhaps, to the muscular Vesicles, *They*, however, can no longer be inflated; so the Muscles themselves, for want of Support, and their *only Directors*, must remain inactive, soon become cold, flaccid *, numb, and often wasted; in short, the

this Subject have rather confus'd and perplex'd themselves than inform'd others.

† That the Nerves and Arteries have a mutual Dependence on each other, is I believe true; we see that all Things that affect the nervous System, affect the Action of the Arteries; Anger, Grief, Joy, Fear, all the Passions make an Alteration in the Pulse and Secretions.

* There sometimes will be a Rigidity and great Stiffness in the Tendons, which is but a Propensity in the Muscles to act, the Action of the Nerves being but partly suspended, the Vesicles are but
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the Body in those Parts will be in a paralytic State.

Now, whatever is of a Nature so volatile and penetrating as to be able to open Obstructions in these principal Organs, and give them Power again to recover their Action, the consequent Feebleness, Languor, and Inactivity of the Muscles, will be remov'd, and these Cases either cur'd, or in Proportion reliev'd.

The Effects of warm Water simply consider'd, we know is to *relax*; (*et hinc illæ Lackrymæ*, from hence is Bathing accus'd.) The Steams of it, soften, and entering thro' the Skin, become a Fermentation to every Vessel and Fibre they reach, whereby their Diameters will be

in part inflated, and the Circulation continuing, they must remain so; tho' *Boerhaave* says it is owing to the Animal Spirits: *Musculi rigor pendet a nervis spiritu plenis, et arteriis inflatis.* Vid. de Paralyf, p. 9.

enlarg'd, and the contain'd Fluid have a greater Space to move in, and thus, according to Hydrostatics, which prove that Fluids press *quaquaversum*, the Parts will be set at a greater Distance from each other, that is, will be attenuated—In this Light, warm Bathing may be justly look'd upon as a Deobstruent. But we are led into an Opinion, I may call it a *Mistake*, that the *Bath Waters* have no other Effect than *This*; whereas if we consider these Waters as impregnated with more active and mineral Principles, at the same Time that they act upon the Body as warm Water, their more powerful and volatile Contents will, by that Means, be better enabled to be convey'd to the remote Vessels, where penetrating the Coats, they stimulate *Them* to Action, and mixing with the Fluids themselves, attenuate, dislodge, and move on the obstructing Cause, and thereby fit it to be dis-

discharg'd by its proper Secretion : Thus the several Organs will be restor'd to their respective Offices, and the Oeconomy of the whole Structure be preserv'd *.

When we consider the *Skin* as the general Emunctory of the whole Body, and that a due Secretion from *Thence* must contribute to the proper Action of the several Parts, and the general Vigour of the whole Constitution, it is likely that warm Bathing *only in this Light*, would be of Service in Palsies ; but when we reflect, that it is more than probable, that the greatest Part of the nervous System is spread upon its Surface, we may reasonably conclude, that the Water and its Contents, will more immediately act

* *Fernelius* says of Palsies, Curationem ita instituemus, ut ratione causæ, humorem nervos occupantem, ab illis alio revellamus derivemus, vel & corpore expurgemus, aut alioquin discutiamus, vel absumamus ; and among other Ways, mentions *Warm Bathing*.

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upon, affect, and free the Nerves from Causes that prevented their Action. It would not perhaps be too refin'd an Opinion to imagine, that from hence, tho' the Cause arose from the Head, Success might be expected ; for these extreme Branches may imbibe, and convey to the very Seat of the Disorder, a Power sufficient to remove it.

However, the Connection that subsists between the Skin and the several Organs of the Body, is so great, and Health is so often impair'd or restor'd in Proportion as that Secretion is obstructed or promoted, that there needs no Examples to confirm it ; but the habitual Looseness is so remarkable a one, that I cannot omit it.—Here, when an increas'd Perspiration either naturally comes on, or can by Art be procur'd *, the Intestines always become

* *Diurnæ Diarrhææ, irritis aliis, per diaphoretica promptissime sanari soleant.* Baglivi, p. 101.

come stronger, the Acrimony of the Fluids is meliorated, in some measure discharg'd, and the Diarrhæa lessen'd, according to the known Maxim of *Hippocrates*, " Alvi laxitas, cutis densitas, cutis raritas, alvi densitas." And we find this Observation to be true, and that warm Bathing is of great Use. To say therefore that Bathing cannot effect or *affect* operate on a remote Cause, would be contradicting Experience: And if Parts so seemingly independent promote or obstruct the Action of each other, how much more so must Vessels directly proceeding from the same Origin, and destin'd to the same Office? For the Nerves ~~for~~ the Skin, in whatever Light Bathing is consider'd, must be powerfully acted upon.

However, what tends to free one oppress'd Organ, may relieve another, es-

I have by me, a very extraordinary Case, of a Dropsy, which was cur'd by Sweating.

pecially as this Emunctory purifies the whole Machine, and when *That* is properly conducted, the several Parts are less interrupted, and better enabled to perform their respective Functions.

I am little solicitous whether warm Baths produce the Effects mention'd, in the Manner I have suggested or not, my Purpose being fully answer'd, in shewing that they really do Good ; and I should conclude, (were there no other Instances) that it is beyond a bare Conjecture, that they do something more than *relax*, from observing how frequently their Efficacy appears in the *distorted Spine*, where one or more of the Vertebrae are started, and push'd outwards, whereby the lower Limbs become paralytic. But when the more superior Vertebrae are affected, as sometimes they will be, a Paralysis of
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the Hands enfues, with troublefome Symptoms in the Stomach. This Cafe generally proceeds from a Weaknefs of Conftitution, a Want of the *Vis Vitæ*, as in the Rickets, after long Fevers, &c. And here warm Bathing always fucceeds, the Arch becomes lefs, and the Limbs are reftor'd to their Ufe.

In fhort, if Bathing ferv'd to introduce Commotions in the Animal Oeconomy, or enfeeble the nervous System, we fhould methinks now and then fee fuch Effects in the *Guides*, who are every Day in the Bath, and for feveral Hours together; and yet it is notoriously known to be true, that they enjoy a better State of Health than the Generality of People, and are remarkable long Livers. Bathing in Health, and Sicknefs, is no doubt a very different Situation; but as what has been obferv'd in the moft apparent Lan-

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guor, must justify its Use in that State, so the constant, continued, and long Use of it, in the *other*, not only without Inconvenience, but with an Addition of Health, will serve to strengthen the Proof, that it does not cause the Relaxation suppos'd, especially when we know, that Persons, after much Fatigue, violent Exercise, and great Weariness, are refresh'd and invigorated by Warm Bathing, more than by any other Means.

Upon the Whole, tho' I must believe that Dr. *Mead* founded his Opinion upon some Instances he had seen, yet I should imagine *They* were not sufficient for so general an Assertion, more particularly as the Account I have given, is so directly opposite: *Post Hoc, ergo propter Hoc*, is a Maxim never to be relied on, and a Consequence that may prove fatal to be observ'd; and from hence it is, that Effects

fects have been attributed to the *Bath Waters* they never produc'd.

Without some stronger, and more evident Proofs therefore, I should think, that Warm Bathing ought not now to be discourag'd, since Time has added Experience to Probability, and Success has crown'd the Wishes of the most timorous ; for the Use of it is again happily reviv'd, and become general, thro' Impediments which nothing but uncommon Success could have surmounted. We see *now* what Authors have said of it, to be true : *Guidot, Jones, Pierce, Oliver, and Baynard*, have shown us what heretofore it effected ; and at this Time scarce a Day passes without having its salutary Effects conspicuous, in an Addition to the *deserted Crutches*, which are now of no other Use but to support the *Fame* of a better Supply.

Dr. *Baynard*, who liv'd above thirty Years at *Bath*, observes, that “ He has
 “ seen wonderful Cures done by Bathing,
 “ in the *West-India* Gripes * and Colics,
 “ where a Paralyfis has been general,
 “ with a total Loss of the Limbs.” And indeed, as he says, there have been wonderful Cures : At this Time we have a remarkable Instance in the Infirmary, in a Youth about 19 Years old, who two Years ago was seiz'd with a *West-India* Colic, after a Voyage to those Parts : He was admitted a Patient *Here* in *September* last, and was the most miserable Object ever beheld ; his Arms hung entirely useles by his Sides, the Hands drop'd quite inwards, greatly emaciated, and the Fingers so strongly contracted, that it was

* I know that this Species is not look'd upon in the same Light as other Palsies ; for which Reason, it may not be improper to observe, that among the 310 first mentioned Cases, there are but 11 nervous Colics or *West-India* Gripes.

not

not in the Power of Force to move them; the Legs were so wasted as to appear only cover'd with Skin, and contracted up to his Buttocks; so that he always stood on his Knees. This Lad, by the Use of Bathing, soon began to recover, and has been for some Time able to walk *without Crutches*; he has now the free Use of his Hands, the Legs and Arms are become plump, and the flexor Muscles of the Thumbs have nearly regain'd their Size, tho' they were more wasted than I ever saw.—I mention this Case, because it is not among the Number of discharg'd Patients, and as any Body may be satisfied of the Truth of it, he still remaining with us.

In short, so many Authorities proving *a priori*, from the Structure of the Parts, the Reasonableness of this Practice; and so many Instances concurring *a poste-*
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riori,

riori, from its Success, must be such accumulated Proofs as to amount to a Demonstration evident to every Enquirer.

Here I must not neglect to observe, that the *Shaking Palsy* is the only Species we have but little Success in ; it is generally made worse by drinking the Waters, and Bathing but very seldom is of Service : For I find only one Patient, tho' we have had several, who was discharg'd better. — But even in this Case, I should hope, that a *proper Use of the several Baths*, and a suitable Regimen would, in Time, answer our Expectations.

What Dr. Mead observes about *drinking the Waters* any considerable Time, (even in Stomach Cases) that they bring on too great a Laxity in that Part, is certainly just ; and we often find that Aromatics, Bitters, and Steel Medicines are
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necessary to be added to the Waters, to prevent as much as we can, this Inconvenience, which seems to arise from the Vehicle (the warm Water) being so large in Proportion to the Contents, from which alone we expect Benefit: *A fortiori* therefore, I should conclude, that a Method, which introduces into the Habit, the volatile Steel and Gas of Sulphur, would better answer our Purpose in Palfies, than loading the Stomach with such an unnecessary Quantity of warm Water, which must be more copiously drank, and longer continued, in this than in Stomach Cafes. Warm Bathing effectually answers this Intention, and prudently us'd, is attended with no Accident.

It would have been a great Addition to the Improvements lately made *Here* for the better Accommodation of Bathers, if a Vapour Bath or two had been contriv'd,

triv'd, which frequently in this and several other Cases, would be extremely beneficial: The Steams are by far more subtle and penetrating than the Waters themselves; for their circumambient Weight on the Parts, I suppose, prevents, what the fine, volatile *Effluvia*, by a more gradual Application to the Skin, produce.

And now I have this Opportunity, it may not be improper just to mention, that Warm Bathing is of great Service in the GOUT, which is usually defin'd as seated in the Joints, and when it is regular is always in the Extremities, with some Degree of Inflammation; where indeed, without considering the Danger it produces in other Parts, it sooner or later deposits a Load not to be remov'd, whereby the whole Man becomes debilitated, and generally a Cripple; but I believe it lies in the Power of every Man to
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retard and put off this evil Day, even to old Age. As Indigestion seems one of the primary Causes, all Intemperance will but add Fuel to a future Fire; Temperance therefore, and a proper Regard to the Non-naturals will do a great deal towards lightening this Affliction, and, if warm Bathing *be early* made use of, I should not doubt of Success; and here I speak feelingly, having happily experienc'd the Efficacy of this Method myself, who am a very remarkable Instance of it.

What is the immediate Cause of the Gout, yet remains (and will, I fear, remain) to be known; but there are many Reasons to make us believe, that the Nerves are principally concerned and affected.

Its suddden Transition from the Extremities to the more vital Parts, seems

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to prove it, especially as no Inflammations so instantaneously bring Relief, or disappearing, produce such fatal Symptoms; which, if they proceeded from Inflammation, would not yield, as they generally do, to the highest Cordials.

As another Proof we may add, the great Spirits and Vivacity People have, when Nature is able to unload its Incumbrance upon the Extremities, and the terrible Train of Symptoms that arises, when it is suffocated and surpress'd, and ~~the~~ Constitution not strong enough to throw off its Malignity: With these Circumstances we may conclude, I think, the Disorder to be generally * nervous; and in ~~the~~ Support of the Virtues of Warm Bathing in nervous Disorders, the great Number of gouty People who come

* Notwithstanding this, I believe there are several Situations that require Bleeding.

Here,

Here, and the Benefit, under a proper Regulation, they receive, should convince us, that the Nerves are rather strengthen'd and fortified than relax'd by it; for if it brought on such a State, Nature would, in *this Case*, soon sink under its acquir'd Imbecility.

The wandering, erratic Pains are by this Means, either fix'd in the Extremities, or, by gentle Perspiration, the Cause is in some Measure carried off, the Vomings, Diarrhœa's, and Head-achs, are remov'd by it, and the stiff Limbs become useful; not so much by being relax'd, as the volatile Parts of the Water rarifying and attenuating the thicken'd Defluxion which obstructed the Freedom of their Motion, it is thereby prepar'd, under a due Circulation, to be carried off, by its proper Secretion: But if this Expedient be long neglected, by

frequent Returns of the Fits, this Matter will be greatly accumulated, and at length harden'd into a cretaceous Substance not be disperfed, and Time will but add Pain to Weakness, and make the Patient but too sensible of every gouty Particle in his Frame.

But, at the same time, that the *Bath Waters* thus act upon the Fluids, they remarkably brace up, and restore to their Tone, the weakened, relax'd Fibres.

Bathing the Feet is, I think, a good and necessary Preparation for total Immersions, which being continued a proper Time, the Feet should afterwards be frequently immerg'd. And here I shall add, that bathing the Feet, when the Gout is in the Head, Lungs, Stomach, or Bowels, is sometimes not attended with Success; for unless we are cautious, instead of *relaxing*, as *Here* we
 2 design,

design, we unwarily prevent the Effect, and fix or aggravate the Symptoms; which serves to corroborate all the Proofs I have brought, that the Waters do not introduce so injurious a State of Relaxation; the volatile Parts of which powerfully stimulating the Vessels, *They* exert a greater Force, and the Fluids are thereby drove from the Parts we intended to invite them to: This Effect, I believe too, in Part arises from the great Heat of the Water; for the Feet being put into a Water so much hotter than the Fluids of the Body, the Vessels are immediately affected by the Action of Heat, which constricts, and crisps up, as it were, the Fibres; so that the Fluids are, with an added Force, propell'd from the Extremities.

I should think therefore, that the Waters of the King's, and Hot Bath, should stand by a while, before they are
us'd,

us'd, or the Cross Bath Water be employ'd in their Stead.

I have known some who have bath'd their Feet, without this Caution, complain, that just in that Part to which the Water reach'd, they felt a Sensation like being tied round with a Cord; which seems to favour the Conjecture.

There are many other Cautions necessary to be taken, both previous to, and during the Use of *Warm Bathing*, which can only be properly accommodated to particular Circumstances, and must be under the Direction of the Physician employ'd; I shall therefore leave this Matter, and what else I have advanc'd, to impartial Consideration, and the farther Examination of more curious Enquirers.

F I N I S.